

THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claims 1-53 (Cancelled).

Claim 54 (New) A method for increasing the harvest index of monocotyledonous plants, comprising the steps of:

(a) increasing expression of an isolated nucleic acid encoding an Na⁺H⁺/exchanger (NHX) protein according to SEQ ID NO. 2 in monocotyledonous plants grown under non-salt stress conditions by introducing and expressing in said plants said nucleic acid having the sequence according to SEQ ID NO. 1 in the sense orientation under the control of a seed-specific promoter; and

(b) selecting for those plants that exhibit increased yield/biomass and/or modified plant architecture and in particular are characterized by an increase in harvest index of 19% compared to corresponding nullizygous plants.

Claim 55 (New) A method for increasing the harvest index of monocotyledonous plants, comprising the steps of:

(a) increasing expression of an isolated nucleic acid encoding an Na⁺H⁺/exchanger (NHX) protein according to SEQ ID NO. 2 in monocotyledonous plants grown under non-salt stress conditions by introducing and expressing in said plants a nucleic acid sequence capable of hybridizing with SEQ ID NO. 2 under stringent conditions comprising a temperature of 60° C. followed by washes in 2xSSC, 0.1xSDS, and 1xSSC, 0.1xSDS in the sense orientation under the control of a seed-specific promoter; and

(b) selecting for those plants that exhibit increased yield/biomass and/or modified plant architecture and in particular is characterized by an increase in harvest index of 19% compared to corresponding nullizygous plants.

Claim 56 (New) The method according to claim 54 wherein said increased yield/biomass and/or modified plant architecture is selected from the group consisting of: increased

aboveground area, increased number of first panicles, increased plant height, increased total number of seeds, increased number of filled seeds, increased total seed weight, increased harvest index and increased thousand kernel weight, each relative to corresponding wild type plants grown under non-salt stress conditions.

Claim 57 (New) The method according to claim 55 wherein said increased yield/biomass and/or modified plant architecture is selected from the group consisting of: increased aboveground area, increased number of first panicles, increased plant height, increased total number of seeds, increased number of filled seeds, increased total seed weight, increased harvest index and increased thousand kernel weight, each relative to corresponding wild type plants grown under non-salt stress conditions.

Claim 58 (New) The method according to claim 54, wherein said nucleic acid is in the sense orientation and is under the control of an endosperm-specific promoter.

Claim 59 (New) The method according to claim 55, wherein said nucleic acid is in the sense orientation and is under the control of an endosperm-specific promoter.

Claim 60 (New) The method according to claim 58, wherein said endosperm-specific promoter is a prolamin promoter.

Claim 61 (New) The method according to claim 59, wherein said endosperm-specific promoter is a prolamin promoter.